Historical Geology

The late Professor Charles Schuchert hoped to complete within his lifetime a truly comprehensive treatise on the historical geology of North America, although it now seems that three volumes, the second of which has just appeared, are to constitute his contribution. But what a monument to his life's devotion to stratigraphy and paleontology these will be,—truly the stratigrapher's *vade mecum*! This is no cold lexicon of stratigraphic units, but a warm synthesis of the ever more complex facts and inferences concerning the stratified rock record of this continent, based upon years of field work and digests, begun in 1904, of hundreds of geological books and papers. The first volume, appearing in 1935, dealt with the Antillean-Caribbean region, including the Gulf Coastal Plain area. The second volume, summarily reviewed here, covers the 30 eastern and central states, including Texas. The third volume, which the publishers assure us is well advanced in preparation, will discuss New England, the Maritime Provinces, the rest of eastern Canada, central and arctic Canada, the Arctic Archipelago, and Greenland, "together with the philosophical conclusions and paleogeographic maps." In his introduction to the second volume, Professor Schuchert bequeaths to his successors "the Cordilleran wonderland." Nor has he made any attempt to give pre-Cambrian local histories, or any of the Pleistocene.

The plan of the book is simple and direct: the stratigraphy of each state is considered separately, but each is related to its neighbors and stratigraphic province. They are grouped in eight sections, following an introductory chapter on stratigraphic terminology: (1) New York, the standard for correlation of the Ordovician, Silurian, and Devonian in the eastern and central United States,—"No more fossiliferous or better understood formations exist than those of New York"; (2) the eleven states lying across the Appalachian geosyncline beginning with Pennsylvania and New Jersey and extending down and around to Mississippi; (3) the Atlantic Coastal Plain; (4) the states athwart the Cincinnati geanticline; (5) the states conditioned by the Ozark dome; (6) Wisconsin and Minnesota; (7) the eastern plan states; and (8) the states north and west of the borderland Llanoria. After introductory remarks on the general geological relations of each section, there follow separate chapters on the states, each of which includes an historical résumé of geological work, the major structural features, and the stratigraphic sequence, the last being a detailed catalogue of the rock units, beginning with the oldest and including the course and date of the name, lithology, thickness, abundant references to significant literature (especially since 1910), important fossils, and correlations. The number of stratigraphic units thus treated is around 2500. Where significant stratigraphic breaks occur between formations, they are indicated and their meaning discussed. In spite of elimination of superfluous verbiage and employment of a standard set of abbreviations, the whole, as may be expected, forms an imposing volume. The three plates display portraits of leading American geologists; the 78 correlation charts and 123 figures, mostly geologic maps and sections, sharply focus stratigraphic relations.

There can be no criticism of this work as a whole,—there is no similar modern compendium of American stratigraphy treated from the standpoint of sequence and significance,—and its tremendous value to all geologists, at home and abroad, is at once apparent. There will be innumerable critics of special points: "He hasn't mentioned so-and-so's work in such-and-such county," "He has incorrectly quoted my results on the forams of this-and-that well," "Apparently he never saw the section on thus-and-so creek," and so on. No one can hope to bring together so much data without occasional nods, and to sift it without missing a few grains or even occasionally dropping a brick. Will any of the rest of us ever have the courage and fortitude to produce a comparable landmark in American geology? Probably not.—*J. W. Wells.*

Stratigraphy of the Eastern and Central United States, by Charles Schuchert. xvii—1013, 78 charts, 123 figs., 3 pls. New York, John Wiley and Sons, 1943. $15.00.